

PROPELLER CLUB NATIONAL CONVENTION

OIL POLLUTION PREVENTION PANEL

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INTRODUCTION

MR. JOSEPH, MR. ROBERTS, FELLOW PANELISTS, LADIES AND GENTLEMEN.

GOOD MORNING. IT IS INDEED A DISTINCT PLEASURE AND HONOR TO PARTICIPANT AT THIS YEAR'S CONVENTION AND TODAY'S PANEL ON OIL POLLTUION PREVENTION AND FIREFIGHTING PREPAREDNESS. I WAS A STUDENT MEMBER MANY YEARS AGO AND HAVE BEEN INVOLVED EVER SINCE. MY THANKS TO MR. KENT ROBERTS AND THE PROPELLER CLUB FOR INVITING ME. PORTLAND IS THE RIGHT PLACE TO TALK ABOUT THIS SUBJECT. THE MARITIME FIRE SAFETY ASSOCIATION IS A MODEL OF HOW TO DO IT RIGHT.

THIS MORNING I'LL BRIEFLY DESCRIBE THE PRIMARY CAUSE OF MARITIME OIL SPILLS, WHAT WE ARE DOING TO PREVENT THEM, AND OUR PURSUIT OF A "BEST RESPONSE" CONCEPT. IN THE PROCESS, I'LL POSE A FEW QUESTIONS THAT HOPEFULLY WILL STIMULATE YOUR THINKING.

## CAUSES OF SPILLS

TALKING FIRST OF THE CAUSES OF SPILLS, IT IS WIDELY ACCEPTED, IN BOTH GOVERNMENT AND INDUSTRY, THAT ABOUT 80 PERCENT OF ALL VESSEL CASUALTIES AND THE RESULTING POLLUTION ARE RELATED TO THE HUMAN ELEMENT. I'LL RETURN TO THIS THEME LATER IN MY COMMENTS.

EACH YEAR, THE CUMULATIVE COSTS OF FATALITIES, INJURIES, OIL SPILLS AND OTHER MARINE-RELATED LOSSES ARE MORE THAN \$1.5 BILLION BY CONSERVATIVE ESTIMATES.

## OPA 90

THE GROUNDING OF THE EXXON VALDEZ IN 1989 WAS ONE SUCH SPILL CAUSED BY HUMAN ERROR. IT IS AN UNDERSTATEMENT TO SAY THAT THIS SPILL GREATLY HEIGHTENED INTEREST IN POLLUTION PREVENTION AND ENVIRONMENTAL PROTECTION.

THIS ACCIDENT LED TO THE PROMULGATION IN THE U.S. OF THE OIL POLLUTION ACT OF 1990. THIS IS THE LARGEST MARINE SAFETY TASK THE U. S. COAST GUARD HAS EVER UNDERTAKEN AND RESULTED IN SWEEPING CHANGES IN OIL AND CHEMICAL TRANSPORTATION.

SO WHAT HAVE WE LEARNED BY IMPLEMENTING THE OIL POLLUTION ACT OF 1990? GENERALLY SPEAKING, PREVENTION-BASED REGULATIONS THAT ADDRESS THE CAUSES, CONDITIONS, SITUATIONS, OR INCIDENTS THAT PRECEDE OIL SPILLS TEND TO BE MORE EFFECTIVE IN PROTECTING THE ENVIRONMENT THAN RESPONSE-BASED REGULATIONS. PREVENTION IS STILL THE BEST RESPONSE – THAT DOESN'T MEAN THAT WE SHOULDN'T OPTIMIZE RESPONSE PREPARATION.

IF YOU CONSIDER THE DATA ON OIL SPILLS IN U.S. WATERS, IT SHOWS THAT SINCE OPA 90:

- THE AVERAGE NUMBER OF OIL SPILLS OVER 10,000 GALLONS HAS DROPPED BY ALMOST 50 PERCENT FROM PRE-1991 LEVELS

- THE GALLONS SPILLED PER MILLION GALLONS OF OIL SHIPPED HAS BEEN DRAMATICALLY REDUCED FROM AN ANNUAL AVERAGE OF 14 GALLONS SPILLED FOR THE YEARS 1984 TO 1990 TO 5 GALLONS SPILLED DURING THE YEARS 1991 TO 1997, A 65 PERCENT DECREASE.

- AND FINALLY, THERE HAVE BEEN NO SPILLS OVER ONE MILLION GALLONS SINCE 1990. THE VOLUME OF TANK SHIP OIL SPILLS IN THE U.S. PEAKED IN 1989 AND HAS REMAINED BELOW 200,000 GALLONS SINCE 1991.

WHY THE REDUCTION IN ACCIDENTAL SPILLS? MANY FACTORS HAVE COME TOGETHER TO MAKE MARINE OPERATIONS—TANKER OR OTHERWISE—SAFER; SPURRED CERTAINLY BY A HIGHER SENSE OF RESPONSIBILITY BY VESSEL OPERATORS, FOR WHICH THEY DESERVE DUE CREDIT, BUT ALSO BY:

- IMPROVED NATIONAL STANDARDS;
- EQUIPMENT RULEMAKING UNDER OPA 90;
- THE PROSPECT OF UNLIMITED LIABILITY UNDER SOME CIRCUMSTANCES;
- HIGH PUBLIC CONCERN AND SCRUTINY;
- THE MEDIA—THE DESIRE OF OWNERS NOT TO BE A LEAD STORY ON THE EVENING NEWS;
- NATURAL RESOURCE DAMAGE ASSESSMENT AND LIABILITY;

- INCREASED CRIMINAL LIABILITY AND ACTIONS BY STATE AUTHORITIES;

TO NAME A FEW THINGS.

### CURRENT PREVENTION EFFORTS

WE HAVE IMPLEMENTED A NUMBER OF ADDITIONAL PREVENTION EFFORTS THAT, OVER TIME SHOULD REDUCE FURTHER SPILLS: OPERATIONAL MEASURES FOR EXISTING TANK VESSELS AND PHASE-OUT OF SINGLE-HULL TANKERS, REPLACED BY DOUBLE HULLS CLEARLY HAVE A HIGH PREVENTIVE POTENTIAL.

HOWEVER, IF WE HAVE TO DEPEND ON DOUBLE HULLS TO ULTIMATELY PREVENT A SPILL, SOMETHING ELSE HAS PROBABLY GONE WRONG. DOUBLE HULLS AND THE EQUIVALENT ARE SECONDARY PREVENTION MEASURES.

I MENTIONED THAT THE HUMAN ELEMENT WAS THE MAJOR FACTOR IN THE MAJORITY OF MARITIME CASUALTIES, AND FOCUS ON THE HUMAN ELEMENT MUST BE THE PRIMARY PREVENTION MEASURE. THIS HAS BEEN THE FOCUS OF MANY OF OUR SAFETY EFFORTS IN RECENT YEARS

ISM/STCW

THE COAST GUARD HAS BEEN HEAVILY INVOLVED ON BOTH THE NATIONAL AND INTERNATIONAL FRONTS TO EMPHASIZE THE HUMAN ELEMENT.

WE HAVE MARCHED STEADFASTLY FORWARD IN IMPLEMENTING THE INTERNATIONAL SAFETY MANAGEMENT (ISM) CODE AND THE INTERNATIONAL CONVENTION FOR STANDARDS OF TRAINING, CERTIFICATION AND WATCHKEEPING (STCW), 1995 AMMENDMENTS.

ISM AND THE 1995 AMENDMENTS OF STCW ARE, COLLECTIVELY, AMONG THE BEST THINGS WE CAN DO TO IMPROVE INTERNATIONAL MARITIME SAFETY AND THE PROTECTION OF THE ENVIRONMENT.

ISM CERTIFICATION FOCUSES ON PROCESSES AND PROCEDURES INVOLVING THE CREW AND MANAGEMENT ASHORE.

STCW CERTIFICATION FOCUSES ON “HUMAN FACTOR”

REQUIREMENTS WHICH INCLUDES VERIFICATION THAT VESSEL WATCHSTANDERS ARE GETTING ENOUGH REST, DESIGNATED SEAFARERS ARE PROVIDED BASIC SAFETY TRAINING, WATCHSTANDERS HAVE BASIC ENGLISH ABILITY, AND THE CREW IS OVERALL COMPETENT.

THE CHALLENGE FOR ISM AND STCW IS TO ENSURE THAT THE HUMAN ELEMENT AND SAFETY AND QUALITY SYSTEM PROGRAMS BECOME INSTITUTIONALIZED AS WE MOVE INTO THE NEXT MILLENNIUM. THERE IS A LOT TO DO HERE TO INSTITUTIONALIZE THE “SAFETY CULTURE” AS IT HAS BEEN CALLED - BEYOND A PAPER EXERCISE, BEYOND THE FIRST ROUND OF IMPLEMENTATION. WE NEED TO KEEP THE PRESSURE ON FOR FULL, CONTINUING AND COMPLETE COMPLIANCE WITH ISM AND STCW.

PAWSS/AIS

ANOTHER AREA OF CRITICAL IMPORTANCE TO POLLUTION PREVENTION IS IMPROVING AND PREPARING OUR PORTS AND WATERWAYS INFRASTRUCTURE FOR THE CHALLENGES OF THE 21<sup>ST</sup> CENTURY, INCLUDING A PROJECTED TRIPLING OF WORLD MARITIME TRADE BY 2020.

TO MEET THIS CHALLENGE THE COAST GUARD, OTHER GOVERNMENT AGENCIES, AND INDUSTRY STAKEHOLDERS ARE WORKING TOGETHER TO DEVELOP A VISION AND FRAMEWORK TO IMPROVE INFRASTRUCTURE OF OUR MARINE TRANSPORTATION SYSTEM – PORTS, WATERWAYS, AND INTERMODAL CONNECTIONS. UNDER PAWSS, THE COAST GUARD IS EXAMINING RISK FACTORS AND HISTORICAL ACCIDENT RATES, AND EXAMINING CURRENT AIDS TO NAVIGATION, TRAFFIC SEPARATION SCHEMES, EXISTING VESSEL TRAFFIC SERVICES THAT OFFSET THESE RISKS.



ULTIMATELY, OUR EFFORTS WILL CONCENTRATE WATERWAYS SAFETY IMPROVEMENTS IN THOSE AREAS WITH THE GREATEST NEED. THESE IMPROVEMENTS WILL INCLUDE A VESSEL TRAFFICE SERVICE BASED UPON NEW VOICELESS TRANSPONDER TECHNOLOGY KNOWN AS AUTOMATIC IDENTIFICATION SYSTEM – OR AIS.

AIS CONSISTS OF TRANSPONDERS AND DISPLAYS CARRIED ONBOARD VESSELS AND PROVIDE INFORMATION, SUCH AS NAME, POSITION, COURSE, AND SPEED, SIGNIFICANTLY EXPANDING THE INFORMATION AVAILABLE TO THE MARINER – THE HUMAN ELEMENT. IMPLEMENTED THROUGH A BROAD CARRIAGE REQUIREMENT, AIS WILL ADDRESS MANY TRAFFIC PROBLEMS BY IMPROVING THE MARINER’S AWARENESS OF SURROUNDING VESSELS.

WE HAVE CHANGED THE WAY WE LOOK AT ACCIDENTS, THE WAY WE WRITE REGULATIONS, AND THE WAY WE APPROACH OUR JOBS. WE ARE IMPROVING SAFETY BY APPLYING OUR EFFORTS WHERE IT WILL DO THE MOST GOOD – ON THE HUMAN ELEMENT, THE PRIMARY MEANS OF PREVENTION. WE DON’T HAVE TO DEPEND ON DOUBLE HULLS.

## Y2K

ONE LAST AREA OF PREVENTION THAT IS SHORT TERM IS DEALING WITH THE YEAR 2000 PROBLEM – OLD COMPUTERS AND EMBEDDED CHIPS FAILING ON OR ABOUT 1 JANUARY 2000 BECAUSE THEY DON'T RECOGNIZE THE NEW YEAR.

THIS IS A VERY PERVASIVE PROBLEM POTENTIALLY AFFECTING ANY AUTOMATED NAVIGATION, CARGO, HVAC MACHINERY SYSTEM. VESSEL AND FACILITY OPERATORS NEED TO CORRECT OR DEVELOP PLANS TO DEAL WITH THIS.

WE'LL BE DEVELOPING FEDERAL REGULATIONS FOR COMMENTS ON OPERATIONAL MANAGEMENT OF Y2K. THERE WILL BE A CONFERENCE ON Y2K HERE IN PORTLAND ON 20 OCT 98. THERE ARE FLYERS IN THE BACK.

## BEST RESPONSE

I MENTIONED THAT PREVENTION IS THE BEST RESPONSE BECAUSE ONCE A SPILL OCCURS, THE ENVIRONMENT IS IMPACTED – THE DEGREE OF IMPACT THOUGH DEPENDS ON OUR RESPONSE PREPAREDNESS.

OPTIMIZATION OF RESPONSE PREPAREDNESS IS ESSENTIAL TO MINIMIZE THAT IMPACT. WE CAN VIEW RESPONSE CAPABILITY AS THE COMBINATION OF THREE CATEGORIES OF THINGS: PEOPLE, TOOLS, AND PROCESSES.

AS THE NUMBER OF INCIDENTS DECREASE, WE RISK A SENSE OF COMPLACENCY DEVELOPING IN THE ARENA OF MAINTAINING THE CURRENT RESPONSE CAPABILITY LEVELS.

AS A RESULT, PROCESS QUALITY, NUMBER AND EFFECTIVENESS OF TOOLS AND THE EXPERIENCE OF OUR PEOPLE MAY TEND TO DEGRADE. UNLESS WE RECOGNIZE THE TREND AND PREVENT IT FROM HAPPENING.

OUR MARITIME TRADE IS PROJECTED TO INCREASE SIGNIFICANTLY – TWO TO THREE TIMES. WE'RE ALSO EXPLORING AND PRODUCING PETROLEUM FARTHER AND FARTHER OFFSHORE IN DEEPER AND DEEPER WATER, INCREASING LONG TERM RISK.

WE NEED TO DETERMINE WHAT'S NEEDED IN ORDER TO ENSURE OUR RESPONSE CAPABILITY IS PROPERLY MAINTAINED TO OUR RISK LEVEL INTO THE NEXT CENTURY.

OUR VISION IS TO CONTINUALLY STRIVE FOR A CONCEPT WE CALL “BEST RESPONSE”. BEST RESPONSE CAN BE DESCRIBED AS A GOAL TO MINIMIZE THE CONSEQUENCES OF A POLLUTION INCIDENT BY MAXIMIZING THE CAPABILITY OF OUR PEOPLE, TOOLS AND PROCESSES TO ENSURE THAT AN EFFECTIVE RESPONSE MAY BE MOUNTED WHEN NEEDED.

WE HAVE MADE SUBSTANTIAL PROGRESS SINCE THE EXXON VALDEZ SPILL. OPA 90 IMPROVED OUR RESPONSE POSTURE BY PROVIDING FOR BETTER PLANNING, IMPROVED COMMAND AND CONTROL AND DRAMATICALLY EXPANDED THE AMOUNT OF RESPONSE EQUIPMENT AVAILABLE. THE COAST GUARD HELD A SPILL OF NATIONAL SIGNIFICANCE – OR SONS - IN 1997 IN PHILADELPHIA AND BP SPONSORED A SONS IN ALASKA JUST LAST WEEK.

WE NEED TO REASSESS OUR RESPONSE POSTURE IN LIGHT OF OUR POST-OPA 90 OIL SPILL EXPERIENCE AND THE RISKS AND MITIGATING FACTORS POSED BY THE FUTURE THEN DETERMINE THE BEST INVESTMENTS IN PREPAREDNESS AND RESPONSE.

IN THAT SPIRIT, WE MUST FOCUS MORE EFFORT ON TWO AREAS THAT ARE RESPONSE-BASED BUT ALSO PREVENTIVE IN

HELPING A BAD SITUATION NOT WORSEN – SALVAGE AND FIREFIGHTING. MORE ATTENTION HERE WILL EITHER PREVENT OR MINIMIZE FURTHER RESPONSE ACTION NEEDED AFTER A MARINE CASUALTY.

IN AN ATMOSPHERE OF DECLINING RESOURCES AND CAPABILITY WE HAVE TO FIND WAYS TO REACH OUR GOALS MORE EFFICIENTLY, AND MAKE OUR PROGRAMS MORE EFFECTIVE.

IN REACHING TOWARD THE “BEST RESPONSE”, THERE ARE A NUMBER OF THINGS WE CAN DO ABOUT PEOPLE, TOOLS AND PROCESSES. IN THE CATEGORY OF PEOPLE:

- WE CAN DELIVER TRAINING TO INDIVIDUALS IN THE RESPONSE COMMUNITY AT THEIR DOORSTEPS THROUGH INTRANET GATEWAYS. WE ARE PLANNING TO DEVELOP COMPUTER-BASED ICS (COMMAND & CONTROL) TRAINING AND RESPONSE SIMULATIONS.
- WE CAN MAKE MORE USE OIL SPILL SIMULATORS TO CREATE ‘VIRTUAL SPILLS’ TO TEST VARIOUS ICS (COMMAND & CONTROL) POSITIONS.

- WE WANT TO MAKE LESSONS LEARNED READILY AVAILABLE BY PLACING THEM ON THE WORLDWIDE WEB BASED ON INCIDENT COMMAND SYSTEM POSITIONS.
- WE CAN MOVE BEYOND COMPLIANCE WITH GOVERNMENT MANDATED PROGRAMS AND DEVELOP SAFE WORK PRACTICES FOR POLLUTION SPILL RESPONSE THROUGH PARTNERSHIPS WITH STAKEHOLDERS.

IN THE CATEGORY OF RESPONSE TOOLS, WE HAVE FOCUSED OUR EFFORTS IN OIL SPILL RESPONSE ON OPTIMIZING MECHANICAL EQUIPMENT CAPABILITY. WE WANT TO MOVE TOWARD USING THE BEST REMOVAL CAPABILITIES AND/OR ENHANCEMENTS FOR OIL AND CHEMICAL SPILLS.

WE REALIZE THAT IT'S TIME TO SHIFT OUR EMPHASIS AWAY FROM MECHANICAL RECOVERY. FOR A GIVEN WORST CASE DISCHARGE, NATURAL PROCESSES CAN REMOVE A LARGE % OF A SPILL.

MECHANICAL COUNTERMEASURES PROVIDES AN ADDITIONAL CAPABILITY FOR REMOVAL. DISPERSANTS AND OTHER ADVANCED TOOLS SUCH AS IN-SITU BURNING CAN REMOVE EVEN GREATER PERCENTAGES AND OFFER TREMENDOUS SAVINGS IN CLEANUP, STORAGE AND DISPOSAL COSTS.

OUR STRATEGY TO IMPROVE TOOLS FOR THE NEXT CENTURY  
WILL BE:

- DEVELOP A NATIONAL ADVANCED TECHNOLOGIES  
CAPABILITY, STARTING WITH DISPERSANTS AND IN-SITU  
BURNING.
- PROMOTE DISPERSANTS AND IN-SITU BURNING AS FIRST  
STRIKE RESPONSE OPTIONS – WHERE APPROPRIATE.
- IMPROVE MECHANICAL RECOVERY IN THE AREAS OF  
SKIMMING RATES, FAST WATER BOOMS, HIGH SPEED  
SKIMMERS AND HIGH SEAS CAPABILITY.
- CONSIDER HOW WE MAY BE ABLE TO FURTHER ASSIST  
NATURAL REMOVAL PROCESSES.
- AND INTEGRATE ADVANCED TECHNOLOGIES INTO  
PRIVATE AND PUBLIC CAPABILITIES.

WE ARE DEVELOPING A FEDERAL MONITORING CAPABILITY FOR  
DISPERSANT AND IN-SITU BURNING OPERATIONS. WE ARE  
DEVELOPING REGULATORY PROJECTS FOR INDUSTRY TO  
INCLUDE THESE CAPABILITIES.

IN ADDITION TO ADVANCED TECHNOLOGIES WE ARE  
CONSIDERING OTHER RESPONSE TOOLS.

- WE WANT TO INCREASE AERIAL AND GROUND LEVEL SURVEILLANCE CAPABILITY, INCLUDING DOWNLINK CAPABILITIES WITH AIRCRAFT AND COMMAND POSTS TO DECISION MAKERS PROVIDING REAL-TIME DATA.
- WE INTEND TO DIGITIZE INCIDENT COMMAND SYSTEM FORMS AND FULLY INTEGRATE THEM WITH LARGE-SCREEN SITUATION MAPS.
- WE ARE WORKING ON THE INNOVATIVE USE OF TECHNOLOGY TO ASSIST WITH DECISION SUPPORT AND INFORMATION MANAGEMENT IN THE SPILL RESPONSE COMMAND POST.

IN THE CATEGORY OF PROCESSES, WE WILL:

- FOSTER INTEGRATED PLANNING AND ADOPT THE “ONE PLAN” CONCEPT. THIS ALLOWS A COMPANY TO DEVELOP ONE PLAN THAT COVERS ALL THE PLANNING REQUIREMENTS FOR SEVERAL DIFFERENT AGENCIES. AGAIN IN THE PACIFIC NORTHWEST, THE WORK OF THE BRITISH COLUMBIA/STATES TASK FORCE IS AN EXCELLENT MODEL APPROACH.



- IMPLEMENT THE INCIDENT COMMAND SYSTEM COAST GUARD WIDE AND ENCOURAGE OUR SISTER AGENCIES TO DO THE SAME.
- USE OUR RECENTLY FORMED INDUSTRY PARTNERSHIPS WITH THE SPILL CONTROL ASSOCIATION OF AMERICA AND THE ASSOCIATION OF PETROLEUM INDUSTRY COOPERATIVE MANAGERS (SCAA/APICOM) FOR DEVELOPING QUALITY-BASED PROCESSES TO GREATLY IMPROVE POLLUTION PLANNING AND RESPONSE.

THESE AND OTHER EFFORTS WILL:

- HELP TO MAXIMIZE THE CAPABILITY OF OUR PEOPLE, TOOLS AND PROCESSES
- THAT WILL HELP MINIMIZE IMPACTS FROM OIL AND CHEMICAL SPILLS AND ENABLE US TO ACHIEVE OUR GOAL OF HAVING THE BEST RESPONSE.

I STARTED BY TALKING ABOUT THE PRIMARY CAUSE OF MARITIME CASUALTIES AND WHAT WE ARE DOING TO PREVENT THEM. AND I OUTLINED OUR PLAN TO KEEP OUR RESPONSE CAPABILITY IN TOP FORM THROUGH OUR BEST RESPONSE CONCEPT.

I CHALLENGE YOU ALL TO THINK ABOUT THE QUESTIONS AND IDEAS PUT TO YOU THIS MORNING AND AS YOU LISTEN TO THE OTHER SPEAKERS AND INTERACT DURING THIS CONFERENCE.

WE HAVE AN OPPORTUNITY HERE TO WORK TOGETHER TO FURTHER IMPROVE SPILL PREVENTION AND RESPONSE METHODS – AN OPPORTUNITY TO SHARE OUR EXPERIENCES AND IDEAS, TO THINK “OUT OF THE BOX” FOR MORE INNOVATIVE APPROACHES TO PROTECT THE ENVIRONMENT IN WHICH WE LIVE AND THAT PROVIDES MUCH OF OUR QUALITY OF LIFE. PLEASE TAKE AN ACTIVE PART. THANK YOU.